



# Communicator

**November 2012**

**All About Repeaters  
& BCARCC**

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Rob Gilchrist VE7CZV

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Screwdriver Antenna Experiences

**A Sleep Strategy for Contesters**  
Improve Your Performance

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**QRM**  
**and More!**

ve7sar.net



**For The Birds—Part 1**

Ham Satellite Work  
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**The Monthly Newsletter of the Surrey Amateur Radio Club**



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AMATEUR RADIO CLUB**

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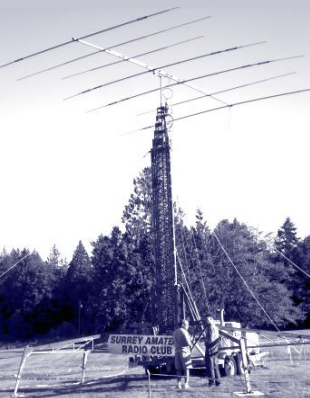
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**VIA THE WEB**  
www.ve7sar.net

The **SARC Communicator** is published monthly for members of the Surrey Amateur Radio Club.

SARC maintains a website at [www.ve7sar.net](http://www.ve7sar.net) that includes club history, meetings, news and other information.



## Monthly Meeting Minutes

### Minutes of October 10, 2012

The meeting was called to order at 1900 hr by President John VA7XB. Guests Marty Atherton VE7MRD, Jerry Gunsalus KF7BPR and Natasha Zavarukhin, wife of presenter Mike VE7ACN/ RW0CN, were welcomed. The agenda was approved.

### REPORTS

#### Financial

With Treasurer Scott VE7HA away, there was no financial report. John VA7XB reported that a \$500 grant from the City of Surrey was received and put towards Field Day expenses. The net loss incurred at Field Day was approximately balanced by the profit on raffle ticket sales. John reminded members that annual club dues are now payable.

#### Net Control

John VE7TI asked for members willing to take SARC net duties to contact him at [ve7ti@separs.net](mailto:ve7ti@separs.net). Members willing to take SEPAR net duties should

contact Brett VE7GM at [ve7gm@me.com](mailto:ve7gm@me.com).

### Kit Building Program

John VA7XB reminded members that the program introduced last year which provides a \$50 rebate on approved kit construction projects is still active, with the proviso that recipients give a short talk on their project after completion of the kit.

### SEPARS

Kelvin VA7KPH announced that on October 18, 2012 citizens are invited to Drop, Cover, and Hold On in the 2012 Great British Columbia ShakeOut. Further information can be found at [www.shakeoutbc.ca](http://www.shakeoutbc.ca).

### Task Assignments

John VA7XB presented the task assignment list as it now stands, highlighting vacant positions. The following volunteers stepped forth:

- Programs & Ham Class - Marty VE7RMD

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	SEPARS Net	SARC Net
1 <sup>st</sup> Tuesday	Drew VA7DRW Jay VE7OFH Standby	Drew VA7DRW
2 <sup>nd</sup> Tuesday	Dixie VA7DIX Alan VA7BIT Standby	Jinty VA7JMR
3 <sup>rd</sup> Tuesday	Rob VE7CZV	Anton VE7SSD
4 <sup>th</sup> Tuesday	Peter VE7PGX Dixie VA7DIX Standby	John VA7XB
5 <sup>th</sup> Tuesday	Jinty VA7JMR	Bill VE7XS
Want a turn at Net Control? Contact the SARC Net Manager ve7ti @ separs.net		

## CLUB EXECUTIVE 2012-2013

### PRESIDENT

John Brodie VA7XB

### VICE PRESIDENT

Brett Garrett VE7GM

### SECRETARY

Vacant

### TREASURER

Scott Hawrelak VE7HA

### DIRECTORS

Kelvin Hall VA7KPH  
(SEPARS)

John Schouten VE7TI  
(Communicator Editor  
& Net Manager)

George Merchant  
VE7QH (Repeaters)

Bill Little VA7ZBL  
(Membership)

Bill Gipps VE7XS

Rob Gilchrist VE7CZV

**SARC** hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, (optional Tone Squelch 110.9) also accessible on IRLP node 1980 and Echo-link node 496228. On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 Coming soon, a repeater at 224.000MHz (-1.6MHz).



- Assistant equipment maintenance - Kelvin VA7KPH

Marty VE7RMD also expressed an interest in assisting with repeater maintenance. No volunteers were forthcoming for nominating committee, updating club history and Secretary.

#### Assistance to Members (JB)

John VA7XB reminded members that the assistance program is still active to provide help with any issues preventing members from getting on the air, and noted that Rob VE7CZV (vision impaired) is still looking for an auto-tuner for his recently-erected multi-band HF antenna.

#### HF Operation & Members Survey

John VE7TI reported that it had been a long-standing wish of the club to have a station of its own which could be used by members, and that one recently-discussed possibility was a remote station with IP transceiver, accessible via Internet from members' homes. A series of questions were asked to poll interest, as pursuing this option will consume time and possibly financial resources:

- How many members at this meeting are active on HF currently? Answer: 8 of those present
- How many members would be interested having remote HF availability? Answer 4 of those present

John indicated that a wider response would be sought from the remainder of the membership. Al VA7MP stated that Kwantlen College hopes to set up radio facilities at 4 campuses for purpose of training emergency operators, and this may provide an opportunity to install a remote station.

#### Operator Training

Jim VE7FO reviewed the status of the operator training program and indicated that the next opportunity will be the CQ WW DX (SSB) contest on Oct 26-28, with a training session on use of N1MM logging software planned before the contest. The date of Wed Oct. 24 was suggested, subject to confirmation that the Training Facility at Fire Hall 9 is available. Brett VE7GM outlined a supplementary "Get Your Feet Wet" event on Saturday afternoon Oct. 27 for those who

wish a low-key introduction to contesting. A notice will be going out shortly concerning these matters.

#### Field Day Planning

Brett VE7GM reported that the FD planning committee will be meeting soon to make an early start on FD preparations. The initial focus will be on filling high-level functional positions. There will likely be a "FD dress-rehearsal" around a contest in late May in preparation for FD.

#### Christmas Party

Jinty VA7JMR reviewed plans for the Christmas Party, to be held at the ABC Restaurant in South Surrey on Dec. 15<sup>th</sup>. Cost will be \$25 for SARC members (subsidized cost) and \$30 for SEPARS members. Jinty has prepared letters for members to use when soliciting door prizes from potential donors. She has also prepared "thank-you" letters. Members are encouraged to donate items for use as door prizes. John VA7XB mentioned that a dual-band handheld radio has been purchased as the main door prize. An email will be going out to the membership soliciting nominations for "Amateur of the Year" presentations, to be awarded at the party.

#### Next Month's Meeting

George VE7QH reported that he will be giving a talk on use of the new SARC repeater system at next month's meeting, commenting that it is installed at one of the best locations in the Lower Mainland but is under-utilized.

#### FEATURED PRESENTATION

Mike VE7ACN / RW0CN was introduced as a recent immigrant to Canada who, upon joining SARC, mentored beginners in the operator training program, and was one of the club's star performers at Field Day and other contests. Mike gave a comprehensive slide show of his contest station in Russia, including construction of outbuildings, some very impressive antennas with innovative features, all built under demanding conditions. His contest team has won several major contest awards. Following a question period, John VA7XB thanked Mike for his fascinating presentation and the meeting was adjourned at approx. 2115.

*~Recorded by John VA7XB*

SARC now has a Club repeater system that is not only state-of-the-art but also covers our area well with both strong VHF and UHF signals. This is a great opportunity to enhance Ham radio activity for us all by making use of the 2-metre and the 70-cm repeaters, IRLP and Echolink. George VE7QH will discuss the capabilities, features and opportunities our and others' repeaters present.

## DOWN THE LOG...

#### SARC Monthly Meetings

2<sup>nd</sup> Wednesday (Sept-Jun)  
1900 hrs local at the Emergency Management BC PREOC,  
14275 96th Avenue, Surrey, BC

#### Weekly Club Breakfast

Friday at 0830 local  
ABC Country Restaurant at  
600 - 7380 King George Blvd.  
Surrey

#### SARC Net

Tuesday at 2000 hrs local  
on 147.360 MHz (+) Tone=110.9

#### SEPARS Net

Tuesday at 19:30 hrs local  
on 147.360 MHz (+) Tone=110.9

#### Announcements & News

SEPARS Monthly Workshop  
Third Thursday, 1900-2130 local  
Rm. 214, 13569 - 76th Avenue,  
Surrey.

#### SEPARS Training

Fourth Saturday, 0830 local,  
Firehall #1, 88 & 132nd Street,  
Surrey

#### On the Web

[ve7sar.net](http://ve7sar.net)

Between newsletters, watch your e-mail for announcements of events, monthly meetings and training opportunities. These announcements Summer also be found on our web page.

#### Twitter

[@ve7sar](https://twitter.com/ve7sar)

#### Photos

[Web Albums](#)

# CQ WW DX Contest (RTTY)

SARC's second "Get Your Feet Wet" event took place on the weekend of Sept 28-30th hosted by VA7XB. Four SARC members were introduced to contesting in the form of the CQ WW DX contest (RTTY), guided by mentors Brett VE7GM and John VA7XB.



*Anton VE7SSD – with CT3DZ (Madeira) and some Caribbean contacts under his belt*

Participants were shown the essential features of the popular N1MM logging software working in conjunction with MMTTY, including how to tune in an RTTY signal, the procedure for using macros to exchange information between stations, how to actually make and confirm

the contact and how to enter the contact into the log. They were also introduced to the use of "spots" (from the VE7CC cluster) shown on the N1MM band map as well as the significance of score multipliers. All four participants picked up the procedures quickly and were able to start making contacts after a short introduction to the contest rules, the software and the radio. Only part of the 48-hour contest period was available and only on 20, 15 and 10 m as VA7XB

does not yet have wire antennas set up for 40 and 80 m. The group made 160 contacts during a few hours of

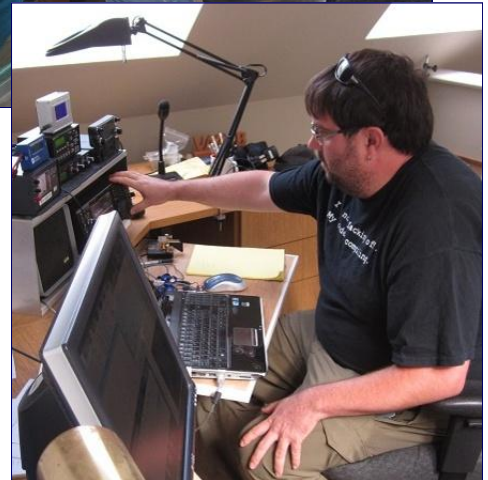


*Kapila VE7KGK – worked 9A1A (Croatia) later in the morning as the band began opening up to more exotic places*

operating time, and all participants made some very respectable contacts including North and South America, Europe, Asia, the Caribbean, the South Pacific and even North Africa. For example, 7 confirmed contacts were made in Zone 33 which covers Morocco, the Azores, Canary Islands, and Madeira. Not bad for beginners with 30 minutes of coaching using a low power station and a non-directional antenna. Claimed contest score was 83,441 which is not a high score for a multi-operator/one radio/low power entry, but the objective of this exercise was to give participants a taste of contesting rather than to compete.



This group may well be ready to join the more seasoned members who already have a year of operator training under their belts from the program begun last year by Jim VE7FO and Fred VE7IO.



*Kyle VE7KYM, who made the largest number of contacts, including ZL1BYZ (New Zealand) early in the day before EU was open*

## On the cover:

Sean VA7CHX – feeling mighty good after working OH0I (Aland Island), CT3EE (Madeira), SP5GRM and UZ2M (Poland), EF7R (Bosnia-Herzegovina) and HG7T (Hungary)

# Frequency Coordination In BC

## British Columbia Amateur Radio Coordination Council

Our VHF and UHF bands are subdivided into sub-bands while the ones used for FM and digital communications are channelized. Certain sub-bands are allocated to channelized repeaters and simplex communications, resulting in a fixed number of channels in each band. This limits the number of repeaters and simplex channels available for use, but on the other hand, with coverage being generally limited to line-of-sight distance, these channels can be reused many times across the Province.

Early in the development of VHF repeaters it became evident that some form of organization needs to ensure that repeaters do not interfere with each other while the use of the available spectrum is optimized so that the greatest number of repeaters can be accommodated in the limited space available. The result was the emergence of Frequency Coordination Councils, groups of amateurs who volunteer and take it upon themselves to manage the repeater portion of the band, coordinating frequencies so as to prevent interference. Frequency Coordination is the process of choosing and recommending one or more specific frequencies for a system that will operate on fixed frequencies, such as a voice repeater, an ATV repeater, a packet system, a remote base or link, etc.

In BC, the British Columbia Amateur Radio Coordination Council (BCARCC) was incorporated in January 1995 and is the current coordinator of VHF and UHF frequencies. It has taken its band plan from the Radio Amateurs of Canada (RAC) band plan and modified it to dovetail with one adopted by the Western Washington coordinators. Repeater operators and clubs who sponsor repeaters work with the Council to find and establish frequencies for their repeaters. The complete list of BC repeaters can be found at their website, [www.bcarcc.org](http://www.bcarcc.org).

Coordination councils in Canada have no power of enforcement: they depend on the respect and cooperation of those they serve. Over the years, BCARCC has gained the credibility and respect of virtually all Hams and has worked with all repeater operators. Amateurs cooperate with BCARCC because this approach to the use of these bands for fixed frequency installations has proven to be a workable and effective method, for everyone's benefit.

In November 1996, BCARCC and Pacific Region of Industry Canada (IC) signed a Memorandum of Understanding (MOU) to establish the advisory role of BCARCC versus the legislative and regulatory role of IC. Under the MOU, IC refers all applications for repeaters to BCARCC for coordination, and no longer lists specific frequencies on Amateur licenses (reflecting the fact that no Amateur is licensed to have exclusive use of a frequency).

Coordination requires cooperation: Although our Amateur sub-bands are a finite resource, they can support a large amount of fixed-frequency activity if shared in a harmonious and cooperative manner. Abuse can destroy the resource for everyone. BCARCC provides the resources to manage our spectrum. BCARCC has other responsibilities besides frequency coordination. For example, it is involved in mediating interference issues, band planning, working on approaches to solving technical problems, and communication

and cooperation with neighbouring coordination councils as well as working with other local and national organizations.

BCARCC's success over the long term has, in part, been the result of policies that differ significantly from those of other coordination councils:

- Unlike other councils whose members are repeater operators, BCARCC's members are Ham clubs. This ensures that policies are developed to benefit the Ham community, not only the interests of repeater operators.
- Coordinations are completed based strictly on technical factors: can the repeater provide the coverage on the specified frequency without causing harm to other systems? The purpose of the repeater, the number of Hams it will serve or the identity of the operator (as long as he/she has an Advanced License) have no bearing on the coordination.
- The BCARCC executive and its Board of Directors determine policy and provide direction. Coordinators are appointed for their technical competence and work independently, based on these policies. Policies are documented at [www.bcarcc.org/policies](http://www.bcarcc.org/policies)
- BCARCC has area coordinators in various regions of our Province. These coordinators provide local knowledge and help those wishing to install repeaters with frequency selection and other technical issues.
- BCARCC considers itself to be an enabler that provides support for the enjoyment of the hobby, not as a regulator and not as a curb on Ham activities.
- BCARCC is fortunate to have the support and continued involvement of retired, professional, communications engineers who ensure that policies are appropriate and who work with repeater operators to resolve technical and interference issues.

At this time, 464 repeaters are coordinated in BC. These repeaters are also known to coordinators in Washington State as well as Alberta and the Yukon and can therefore be protected from other users of the frequency. 153 simplex nodes have been registered. Simplex stations, such as Echolink, IRLP, APRS and point-to-point links are registered, meaning that their presence is published. It is hoped that Hams respect their presence although simplex stations cannot be assured of protection from other users of the frequency.

A complete list of coordinated and registered stations is available at [www.bcarcc.org](http://www.bcarcc.org). These lists are in pdf format and can be printed.

Bill Tracey VE7QQ is this year's President of BCARCC [wrtracey@telus.net](mailto:wrtracey@telus.net) and Ed Frazer VE7EF [ve7ef@shaw.ca](mailto:ve7ef@shaw.ca) is the secretary. Feel free to contact them regarding coordination issues.

*George Merchant VE7QH [ve7qh@shaw.ca](mailto:ve7qh@shaw.ca)  
Chief Coordinator, BCARCC and proud member of SARC*





## The Contest Contender

Jim Smith VE7FO

### HF Station Manager Training

It became very obvious during Field Day 2011 that we needed station managers to oversee the operation and ensure that we were making the best use of our resources to maximize the rate at which we made contacts.

In FD 2012 we did have Station Managers and they did make a noticeable difference. However, with getting the Op Training program together we just didn't have time to do any Station Manager training. We intend to rectify that as best we can this year.

Quite a bit of work has already been done on identifying what the Field Day Station Manager needs to be able to do. In essence it involves managing the station resources in such a way as to maximize the rate at which we're making points at each moment. This includes making sure that:

- There's an op at every position.
- Each op logs into the logging program at the start of their shift.
- The radios are on the busiest bands/modes.
- Where possible, given the op skills available at the moment, preference will be given to CW and Digi modes to maximize the number of points made per hour.
- The best ops are on the busiest radios.
- The appropriate antenna is connected to each op position.
- Rotatable antennas are pointing the right way.
- Monitoring systems are all functioning.

Some of this is directly applicable to the emcomm/PEP Station Manager position.

Sounds simple but there's a lot to know about monitoring both forecast and actual propagation conditions, antenna radiation patterns, individual operator skills, etc. In addition the Station Manager has to be able to help operators with any problems they may be having, do simple trouble shooting, know who to call on to solve major problems, etc.

Once we have the competencies nailed down we're going to have to figure out what training is required to develop these competencies and the order in which it should be presented. Following that we're going to have to figure out how and where to do the training. Hmm... looks like a few folks are going to be pretty busy putting all this together and presenting it.

We'll probably start with classroom style group training sessions with the trainees trying out what they have learned

during the scheduled HF Operator training events. Towards the end of the training they will act as Station Managers of these events. The rubber hits the road on Field Day.

As our members have varying degrees of competence in any particular area the group training sessions will start at ground zero, assuming that the trainees don't know anything about the material being presented. Well, some of you will, of course. You'll just have to be patient while we bring the others up to your level.

The group training sessions will be open to any member who, although not in the Station Manager training program, is interested in the particular topic being presented. Station Manager training topics of general interest will include how to:

- Do HF propagation forecasting. This has become astonishingly easy with modern software.
- Use HF antenna radiation pattern charts to select the best antenna for a particular purpose.
- Use the world-wide spotting network to see who is on the air from where, what mode they are using and what frequency they are on. This is very useful for noticing activity on a band that you didn't expect to be open, such as 10 metres.
- Use the Reverse Beacon Network to determine who is hearing you, how loud you are and where they are.
- Use the NorCal DX Foundation beacon network to compare forecast to actual propagation conditions (if there's enough time in the program for this - it's not all that useful for FD.)
- Etc

The first group of trainees will probably consist of the more technically and operationally competent members. We hope that in the following year we can extend this to the graduates of this year's HF Op Training program. A Yahoo Group will be set up to assist in administering the program.

We probably won't be able to meet all our objectives for this program in its first year. It's going to be a lot of fun trying, though. No matter what, if you're enrolled in this program you will learn a great deal about HF.

More details as they become available.

We aren't ready to sign anybody up yet.

~ 73, Jim VE7FO



## For The Birds

John Schouten VE7TI

### Working the Amateur Satellites

Over the next few months we're going to run a series of articles on yet another facet of the Amateur Radio hobby, the tracking of, and communicating through Orbiting Satellites Carrying Amateur Radio or OSCAR satellites. It is reasonably easy to do and low earth orbit (LEO) satellites or 'birds' are within reach of nothing more than your handheld radio. I've had reasonably good success myself and have spoken to other hams over much of North America using a satellite as a repeater. See [www.amsat.org](http://www.amsat.org) for complete details.

It is a common perception that it requires sophisticated equipment and large circularly polarised antenna arrays to work amateur satellites. While this may be true for using some of the high altitude 'birds' or on the higher bands such as 23cm, it isn't the case for all satellites. There are several low Earth orbiting satellites which can be worked with relatively simple transceivers and antennas. This article will concentrate on voice operation, as I have no experience at all with digital satellite operation.

Amateur voice satellites can be divided broadly into two groups. Firstly, there are the traditional "linear transponder" satellites. These satellites receive a specific range of frequencies (typically 40 - 100 kHz) in one band, convert them to another band using a mixing process similar to that used in a superheterodyne receiver and amplify the converted signal for transmission back to Earth. Linear transponders are capable of relaying several different signals simultaneously. More recently, some satellites have been carrying crossband FM repeaters instead of linear transponders. These repeaters are similar to their familiar terrestrial cousins in that they receive an FM signal on a specific channel, demodulate the signal and retransmit the signal on a new frequency. Unlike linear transponders, but like conventional FM repeaters, these satellites can only carry one QSO at a time. Most amateur voice satellites use linear transponders. We'll focus on the FM satellite and the International Space Station (ISS) for this series.

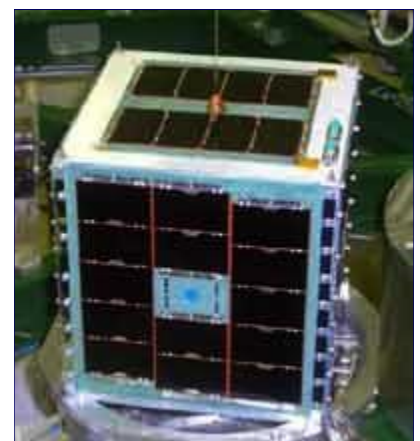
You can be involved by only listening. Most OSCARs carry a beacon, transmitting a CW or voice message. By plotting the course and monitoring on the downlink frequency, you can listen in. To successfully 'work' an amateur satellite, you need to have transceivers suitable for the satellites

you wish to work. For linear transponders, SSB and CW transceivers on the bands of interest are required. For the FM repeaters, either a dual band FM transceiver with crossband transmit/receive capabilities or separate 2m and 70cm FM transceivers are suitable. A related issue is which bands to use. FM users don't have much choice. All of the FM satellites (operational or proposed) use 2m and 70cm, with one of these bands being used for the uplink, the other for the downlink. There are a wider variety of frequencies in use by linear transponder satellites. The suggested bands to try for a first attempt are 2 metres uplink and 70cm downlink.

For antennas, the typical VHF/UHF collinears typically have a low angle of radiation, and better results may be obtained with a simple  $\frac{1}{4}$  wave groundplane, or for the serious, a turnstile antenna. But, the good news is that nothing more than your rubber duckie may suffice. Finally, though not essential, it is very strongly recommended to have a computer, iPad or smart phone, satellite tracking software (check out [www.n2yo.com](http://www.n2yo.com)) and an Internet connection available. The Internet connection is for downloading the latest Keplerian elements for the tracking software (and the software itself if you don't have any), as well as checking satellite home pages for transponder schedules and other information.

#### Working your first satellite!

This isn't anywhere near as daunting as it sounds. The first thing is to have a look around your shack and see what equipment you have. If, like many amateurs, you have FM only radios on VHF/UHF, then you are limited to the FM satellites. If SSB or CW satellite operation interests you, it's a natural progression to move on from FM. For those interested in exploring SSB/CW operation via linear transponders on satellites, there is are several



excellent [introductory articles](#) on AMSAT's web site. The rest of this article will concentrate on FM operation as nearly everyone has FM gear for 2m and 70cm, and the operating techniques are easier to master.

First, time for an inventory, as the gear you have available will partially determine the satellite to use. At the time of writing, which satellite to work is an easy choice. [SO-50](#) (Saudi OSCAR 50 or SaudiSat-1C), transmitting 250 milli-watts FM on 70cm, and receiving on 2m FM is the easiest FM bird for beginners. The astronauts aboard the ISS are also Hams and if you're lucky you might catch one on the air. Some are more active than others. Remember they work shifts based on UTC so you may have to adjust your attempts accordingly. The ISS has on-board a fully functional VHF/UHF FM repeater.

SO-50 carries several experiments, including a mode J FM amateur repeater experiment operating on 145.850 MHz uplink and 436.800 MHz downlink. Operation is very similar to a land based repeater. The repeater is available to amateurs worldwide as the satellite passes overhead, and power permits. To turn on SO-50, you transmit a signal with a 74.4 Hz tone (our SARC repeater uses a 110.9Hz tone). This activates a 10-minute timer to conserve satellite power. This activates the bird. You then transmit with a 67.0Hz tone to carry on your contact.

### Doppler Shift

Also important to know is the amount of Doppler shift that will be present on the uplink and downlink frequency. Doppler shift is a phenomenon that all of us will recognise in a different situation. Imagine you're waiting at a railway crossing. A train passes at high speed, blowing its horn. As the train passes you, the pitch of the horn appears lower than when it was approaching. That apparent shift in frequency is Doppler shifting caused by the relative speed of the train to you shortening, then later lengthening the wavelength of the sound as seen by the observer. On board the train, the pitch of the horn does not alter, but the pitch of the bells at the crossing does. When a satellite passes overhead, the transmitted and received signals are affected in a similar way. With the satellite passing at 27,000 km/h or more, a signal at 436 MHz can be shifted by up to 10 kHz from its actual transmitted frequency. Some satellites are designed with this in mind, and have AFC (Automatic Frequency Control) circuits to partially compensate for Doppler shift. Doppler shift is only significant for FM satellites on 70cm or higher bands. On 2m, the 3 kHz Doppler shift can usually be accommodated by an ordinary FM receiver, provided it's on the correct frequency. [Here's some more information on Doppler shift for those interested.](#)

As the satellite approaches, you should be listening to the downlink frequency, with the uplink ready to transmit when needed. Remember to allow for any Doppler shift (for FM, it will only be significant on 70cm - around 5-10 kHz). If the uplink is on 70cm, tune 5-10 kHz below the nominal uplink frequency (the Doppler shift will make it arrive at the satellite on the correct frequency). If the downlink is on 70cm, you'll have to tune the 70cm receiver 5-10 kHz above the nominal frequency. Using your software, plot the course of the satellite in your area to check and fine tune where to point your antenna. If everything is right, you will hear the satellite's signal, FM receiver noise from the satellite. At this time, the satellite is ready for use, and you can put out a call. While calling, pay attention to your signal as heard on the downlink. Too much noise may indicate a need to move the uplink antenna, increase power or adjust frequency to compensate for Doppler shift. If you can't hear the downlink at all, don't attempt to transmit, as you may interfere with someone else. Also, keep things short while using the satellite. Only one person can use the transponder at a time and the satellite is usually only accessible for about 5-20 minutes depending on the angle of the pass. Others will appreciate your efficiency and courtesy. Typically you'll call with your callsign and Maidenhead coordinate. Most FM satellite contacts are usually an exchange of callsigns, signal reports and occasionally a comment about the weather.

As the satellite passes, you will need to make occasional adjustments to the 70cm frequency as the Doppler shift changes, so that by the end of the pass, you'll be transmitting 5-10 kHz above (or receiving 5-10 kHz below, if 70cm is the downlink) the nominal frequency. From experience, the distortion caused by being off frequency isn't so noticeable, but it is much more difficult to access the transponder when more than 5 kHz off the correct frequency. Some tracking software is capable of telling you the exact amount of Doppler shift present at any given time as the satellite passes (or even controlling your radio's frequency via a linking cable), provided you tell the software the uplink frequency.

The most exciting part of satellite operation is the anticipation of the pass as the time approaches and the fast pace of operation, not unlike during a contest. It's a bit like a brief band opening, except that unlike ducting or sporadic E, satellite openings can be predicted to the second.

Remember, almost any VHF/UHF operator already owns the necessary gear so it's another facet of the hobby you may want to try.

Next time, the pass prediction software.



# CQ WW DX SSB Contest

'Get Your Feet Wet' at VA7XB

We had a good turnout for the introductory session at John VA7XB's station, with participation in the CQ WW DX Contest by Hiu VE7YXG, Ralph VA7CNR, Nell VA7NEW, Sean VA7CHX, Anton VE7SSD and Marty VE7MRD, all of whom got over their nervousness to "get their feet wet".

The new ops made SSB contacts around the world, including Europe, the Caribbean, South America and Asia under the watchful mentoring of Brett VE7GM and John VA7XB. Noteworthy contacts included YL2KO (Latvia), D4C (Cape Verde), OT1A (Belgium), OG1M (Finland), SM0T (Sweden) OH0X (Aland Island) and CR2X (Azores).

What did the ops learn from the experience? None advanced to the level where they were ready to operate "Run" mode, but in "search and pounce" they came away with an appreciation of the need to listen long enough to catch the "rhythm" of the other station calling CQ and the necessity for split second timing on their response. They also honed their phonetics and noted the use of phonetic variations to increase comprehension under difficult QRM conditions. When repeats were required they had to listen carefully and give just the right information back - not too little and not too much.

The bands were hot, including 10 meters with some enticing DX heard but not worked, due to the limitations of the station (low power, no beam). However, that made the DX snags all the more rewarding.

~John VA7XB







## Radio-Active Jinty Reid VA7JMR

Robert Gilchrist VE7CZV

Robert, known as Rob to us all, started life in the Royal Columbia Hospital in New Westminster where he was born but was raised in Burnaby. He was the oldest of three boys. Unfortunately, Rob was over oxygenated during the birth process resulting in blindness and cerebral palsy. In spite of this his parents raised him to be as independent as possible. At elementary school level Rob attended the Jericho Hill School for the Blind, now no longer in existence. From Grade 9 to 12 he went to the Cariboo Hill School. With his determination to succeed in life, Rob went on to study at the University of British Columbia where he graduated in English Literature. At UBC he joined the UBC Ham Society and in 1978 he obtained his amateur radio license. It was also in 1978 that he bought his first radio, an Icom 2AT.

While attending UBC he met and married Elizabeth who was studying music. She graduated with a Bachelor of Music. Elizabeth now teaches piano, trumpet and voice. After they were married they moved to Coquitlam, then



Burnaby before finally settling in their townhouse in North Surrey. Rob and Elizabeth have been married for 27 years. They have a daughter Sarah who is now 17 years of age and in grade 12. Sarah wants to be a nurse when she leaves school. There are 2 other very important members of the family, Tip and Buddy, their two Shih Tzu dogs.

Rob's first radio was a CB. Rob has belonged to BARC (Burnaby Amateur Radio Club) and has volunteered with various emergency organizations. Now he is an active volunteer with SEPAR and of course is a member of SARC. He has 3 radios; a Wouxian (known as the Chinese radio) hand held, a TM77A base radio and a TS440 HF rig. Recently John Brodie and John Schouten assisted Rob in installing a new HF antenna. In the photos to the left, Rob is assisting in the installation of an antenna at John Brodie's QTH by using a spirit level to ensure it is plumb. Due to his vision impairment Rob uses a computer with a paperless Braille display. As we all know Rob has a close relationship with his hand held radio and you will never see him without it, and it begs the question, does he sleep with it? (ha ha !!) Must ask Elizabeth next time I see her!!

Rob participates in many aspects of radio; contesting, SEPAR public education demonstrating Morse code, Tuesday night net control, field day and many other SEPAR and SARC activities. Rob is always willing to help the less knowledgeable and says he enjoys helping people.

Rob's only other hobby is listening to many types of music but Celtic is his favourite. When asked if he has a dream in life he replies "I would love to have a boat" as he finds boating such a pleasurable experience. He and Elizabeth like to holiday at Yellow Point Lodge, south of Nanaimo, where they rent a cabin by the water.

Rob is to be admired for his determination to live his life to the fullest in spite of his physical challenges. His memory is amazing. He has a permanent smile on his face and has a great sense of humour, and the ability to laugh at himself and make blind jokes. He is a wonderful example to us all.



## More SDR, Remote Receivers and Digital Radio

A WebSDR is a Software-Defined Radio receiver connected to the internet, allowing many listeners to listen and tune it simultaneously. SDR technology makes it possible that all listeners tune independently, and thus listen to different signals; this is in contrast to the many classical receivers that are already available via the internet.

We have been making you aware of remotely operated stations. On this page ([websdr.ewi.utwente.nl:8901](http://websdr.ewi.utwente.nl:8901)) you can listen to and control a short-wave receiver located at the amateur radio club ETGD at the University of Twente. In contrast to other web-controlled receivers, this receiver can be tuned by multiple users simultaneously, thanks to the use of Software-Defined Radio.

This site, which in 2008 was the very first WebSDR site ever, was finally reactivated in July 2012 after an interruption of more than 1.5 years. It is now using a small Mini-Whip antenna.

Comments on the antenna's performance are welcome, either by e-mail to [pa3fwm@websdr.org](mailto:pa3fwm@websdr.org) and/or typed into the "chatbox" at the bottom of this page.

Currently there are 42 servers active and 42482 kHz of radio spectrum.

### Wanted

Rob VE7CZV needs an auto-tuner for his HF rig, specifically on 80m.

If you have or know of one that is available at a good price, please contact Rob via [robgil@telus.net](mailto:robgil@telus.net)

### SDR On The Cheap: \$20 Dongle

I've just ordered a \$20 SDR dongle from Hong Kong via eBay. This is a USB dongle made for tuning in TV channels from European stations on Windows software.

Amazingly, it was discovered that the tuner chip in the dongle may be easily modified as a very wide band SDR receiver. The software is free. I'll be playing with mine and will report back in a future Communicator if I'm able to get it working.

Watch the video from YouTube:

<http://www.youtube.com/watch?v=FUQd9HOVTk8&feature=autoplay&list=PL3111CA8AE4719400&playnext=1>

### Decoding Digital Ham Radio Traffic Without a Radio

Alex Csete OZ9AEC is showing you how you can listen to and decode digital ham radio traffic without having any receiver or antenna. All you need is a computer with a Java capable web browser and a good Internet connection.

[http://www.youtube.com/watch?feature=player\\_embedded&v=GB9Ed02Vhr8](http://www.youtube.com/watch?feature=player_embedded&v=GB9Ed02Vhr8)

### Identify HF Digital Modes

Here is a YouTube video illustrating various digital HF modes you may hear on your receiver. Audio clips and their corresponding waveform are presented for ease of ID. It is a collection of various digital modes used by utilities, mariners and amateur radio users including XSL, TADIL, HFDL, Pactor, CW, HF Fax, Packet, JT, ALE, DRM, RTTY and various OFDM schemes.

<http://www.youtube.com/watch?v=GB9Ed02Vhr8>

## Annual SARC Fees Now Past Due

SARC's fiscal year ended on May 31, 2012 at which time membership fees for the 2012/2013 year then become due. Considering the summer break, however, we normally begin collecting dues in September. It is important that your membership dues be received prior to the end of November, as the club's insurance premium and coverage are based on the membership status on the date that the insurance application is made (December 1).

Treasurer, Scott VE7HA, will be please to receive your dues by cash or cheque at the November 14th meeting according to the following schedule:

Individual: \$30.00 Family (2 or more): \$40.00 with a discount of \$5.00 applicable if you are a member of RAC.

If you cannot attend the meeting, we ask that you mail your cheque to: Scott Hawrelak VE7HA 13935 80A Ave, Surrey V3W 6P5



## 'Net' Working Internet Resources and Tidbits for Hams

### A Sleep Strategy for DX Contests

Reprinted with permission—[Randy Thompson, K5ZD](#)

Why am I here? Listen to all these signals. Who are they? Wonder what they are doing? All this CW sure sounds nice. What should I do with this keyer paddle? Should I push this button? I can turn this big knob but what does it mean? Why am I here? There must be some reason, if only I could remember.

It is the 1981 CQ WW CW Contest and my first real attempt at single op DX contesting from the station of N5AU. Sunrise on Sunday morning is only minutes away. I remember waking up, sitting in front of the radio, and experiencing a disorienting state of confusion and wonder. Later, I learn from N5AU's mother that I sat there for over 15 minutes without moving. Finally, slowly, I was able to understand what I was doing and why. The "sleep drunkenness" abated and I returned to the rhythm of the contest.

There have been lots of articles that describe contest strategy and station design, but there is little about the mental and physiological aspects of the sport. Yet we have all known of, or experienced, contest efforts that were cut short by an operator who could not wake up on Sunday morning. This article will present a strategy I use to get through DX contests with the minimum amount of sleep (and maximum score).

I have no medical experience or training. The ideas presented here are based on techniques learned in conversations with many successful contesters including N6TJ, N6AA, K5MM and others. I was also greatly influenced by an article which appeared in the November, 1988 issue of NCJ(1) by Scott Johnson, KC1JI. Johnson was a Physician and sleep researcher at Harvard Medical School. As NCJ editor at the time, I was fortunate to have had the opportunity to talk with him and gain some additional understanding of sleep and its effects.

There is no magical or perfect technique for controlling the effects of sleep deprivation during a contest. Probably the most important aid is simply the knowledge of what sleep deprivation feels like. The more you understand the effects and how they influence your own mental and physical attitude, the better equipped you are to compensate for them.

### Sleep Basics

There are a few basic aspects of sleep that are useful to know. Researchers have found that sleep is structured into approximately 90-minute cycles. A typical night's sleep typically has 4 to 6 cycles. Each cycle begins with light sleep, progresses into deep (or delta) sleep, and ends with dream or rapid eye movement (REM) sleep. The first sleep cycle has a predominance of delta sleep with a short period of REM sleep tacked on to the end. With each cycle, delta sleep diminishes and REM sleep occupies more of the 90-minute cycle. By the fifth cycle, sleep is almost totally REM. Since REM sleep is associated with being closest to wakefulness, it seems logical that it will be easiest to wake up during this time. Since the first sleep cycle ends with a short period of REM, you want to try to time your contest naps to match the 90-minute cycle.

The body temperature falls during sleep and typically reaches its lowest point approximately 1.5 hours before the usual waking time in the morning. This minimum in body temperature coincides with the time of minimal alertness, if you happen to be awake. Lower body temperature is the reason that waking up just before sunrise during a contest often includes a period of chills and uncontrollable shivering. As you become more awake, your body warms up, and the feeling of cold goes away.

Recently, I read a military training manual that presented some information on sleep and its effects. It presented several interesting "facts."

You can not train for lack of sleep. In other words, there is no value in "practicing" sleep deprivation as a way to train the body to live without sleep.

Under sleep deprivation, highly practiced skills will deteriorate more slowly than those which require new or creative thought. This explains why we can continue to do CW, copy call signs and send exchanges at the end of a contest, but may be unable to answer a simple question from our spouse.



### Before the Contest

Contesting is hard work that places both physical and mental stress on the body. You can practice the mental skills of contesting by operating in lots of contests. As for the physical aspect, I divide my preparation into two parts: fitness and sleep.

Do your family or co-workers laugh when you tell them contesting is a physically demanding activity? It takes a lot of energy to sit up straight, talk or send CW, concentrate on listening, type on the keyboard, and reach all of the switches and knobs found in your station. Dick Norton, N6AA, uses a very good example which may make it easier to understand. A 48-hour contest is the equivalent of six 8-hour workdays. Imagine sitting at your desk at work for just one work day with little or no breaks and then multiply by six!

At one point in my career, I had a sales job that involved driving about 4000 miles each month. I noticed that the longer I did this job, the easier it was to sit up straight through a contest. My body developed the muscles required for sitting up during the hours and hours of driving.

Several years ago I got a bicycle and began by just riding to the end of the street and back. Each day I would go a little farther until finally I was up to 5, then 10, then 15 miles each day. It was fun. When Fall came and there was not enough light to go for long rides after work, I tried running. The aerobic workout of the bike made running easy. Once again, I started just going down the street and back, then increasing the distance each week.

When the contests came, I noticed an incredible benefit of the exercise. It was as though the physical demands of the contest had disappeared! I was able to stay awake more easily and my muscles were not as tired during the contest. Without the physical drag, I was able to focus all of my energy to battling the mental fatigue. One result was a 48-hour effort (no sleep) from K3TUP for a win and new USA record in the CQ WW CW. In retrospect, any 3 hours of sleep would have cost me the record and possibly the contest. Another benefit of the exercise was 25 pounds of lost weight!

When my travel schedule made it impossible to maintain this exercise regimen, the weight came back and I noticed how much more difficult it was to get through the contests. You spend hours developing your station and operating skills. Can you ignore physical fitness as a component of a winning contest effort? For best results, you should begin your physical preparations a minimum of 12 weeks prior to the contest.

The sleep preparation for a contest begins five to seven days before the contest. The goal is to be as well rested as possible going into the event. I try to get as much sleep as I can each night during the week. While sleep can not be "stored," the benefits of starting well rested are obvious.

The night before the contest I go to sleep as early as possible. I have learned that excitement, anticipation and nervousness will have me awake at dawn. Some people even take a sleeping pill Thursday evening to insure a solid night's sleep. Not knowing if there are residual effects of these pills, I have avoided this.

One questionable technique many people try is to stay up late on Thursday evening in the hope of sleeping late on Friday morning. This sounds like a good plan but there are several things at work against it. The body's natural rhythms, referred to as circadian rhythms, modulate the physiologic functions such as sleep, hunger, etc. If you normally wake up at 7 AM, there is a good chance that you will wake up at 7 AM the morning of the contest. If you stayed up late, you are just reducing the amount of sleep you are likely to get. Nerves and anticipation will increase the chance of waking early and not being able to fall back asleep.

I usually go to work on Friday morning. This keeps the mind busy (and off the contest). I try to get to the station in the early afternoon. I turn everything on, make sure it's all working, and then head off to bed for a nap. A 1.5 or 3 hour nap prior to the contest is crucial in making it through the first 24 hours without sleep. You may find it difficult to sleep with the contest only hours away, but it has to be attempted. I often practice relaxation techniques to help fall asleep. If I wake up early, I repeat the process. I want to wake up about an hour before the contest starts.

The last bit of preparation before the contest is a meal. I try to keep it light and not drink too much liquid. The goal is to have enough fuel to make it through European sunrise (0900z) without having to get out of the chair.

### **The First 24 Hours**

For me, the first 2 or 3 hours of the contest are some of the most difficult. The nerves are on edge, adrenaline is flowing, and the body must adjust to the demands of operating. It is even harder when no one answers your CQ and all that energy must be channeled into a search & pounce effort!

I have two simple goals for the first 24 hours of the contest: operate as much as possible and maximize the score. For most contests, I am out of the chair no more than three times for a total of less than 15 minutes in the first 24 hours. I do not even consider sleeping. By pushing so hard the first night and covering all the bands, I usually have a good multiplier and understanding of the available propagation. This will be important when planning the sleep strategy during the second night.

If you do need to sleep the first night, the best time (from the Eastern USA) seems to be the hours between European sunrise and local sunrise. The 09 - 11Z hours are often very low rate multiplier chasing. You can sleep for 90 minutes at a cost of approximately 30 contacts and 10 multipliers.

If you can arrange your shack so that you can see the sun rise through a window, this can be a great lift. There is something about seeing the sun come up that energizes the body and improves alertness (remember those circadian rhythms). It also keeps you in tune with when you should make the last low band sweep for multipliers before moving to the higher bands.

I also use the full 24 hour first day effort as a form of motivation. We began noticing at the K5RC multi-single efforts that we could predict our final score based on the 24 hour score. My formula is to double my 24 hour score and add 10 percent. For example, if I have 1.8 Million points after 24 hours, I estimate my final score to be 3.6 plus 10%, which is just under 4.0 Million. My focus for the remainder of the contest is to make that formula come true!

Much of contesting is a series of mental games. Each one designed to give a short term target that maintains focus on increasing the score. Trying to maximize my 24 hour score provides a big boost for me during late Saturday afternoon when the first signs of tiredness begin.

### **The Second 24 Hours**

I am convinced almost anyone can get through 24 hours of contesting just on their love of the game. But the second day requires a solid commitment, desire, and preparation. The fact that contesting is a solitary pursuit both helps and hinders the participants. It helps because the scores of other participants are not known, which makes it easy to justify continuing. The enemy is fatigue which will cause doubts and questions on whether it is even worth continuing! Or, as Vince Lombardi once said, "Fatigue makes cowards of us all."

The top competitors have committed themselves to the contest. They know they must go on no matter what. It's not easy, but this little fact will help them ride through all but the worst problems. Everyone feels the same pain and effects of sleep deprivation. It's really a question of how bad you want to win.

I notice that my commitment to a contest often starts many weeks before the contest. As the contest approaches, I become more focused and more committed to doing a full effort. The build up and motivation gained over the weeks makes it almost impossible to give up or stop.

Maybe it is just a mental let down, but it always seems as if the propagation and activity take a dive immediately after 0000z. Rates are slow because many Europeans have gone to bed and the South Americans have all been worked before. By 01 or 02z, it is becoming a battle to stay awake.

Stu Santleman, KC1F, recommends that this is an excellent time to catch some sleep. "Sleep when the Europeans sleep," he suggests. I disagree with this since it is also the last opportunity to catch many Europeans on 160 and 80 meters. However, I do feel it is a good chance to take some time to recharge your batteries. I usually take 30 to 45 minutes during the 01 or 02z hours to take a shower and eat dinner. The shower wakes me up enough to get through the crucial hours of European sunrise. I eat sitting at the radio tuning for multipliers.

After European sunrise, about 0900z, the contest really slows down. Attention is split between random CQing and tuning for new multipliers. Here is where commitment will be really tested!

I base my sleep strategy on the activity and propagation that was available during the first night. I know what multipliers I am missing on the low bands and can decide if sleep is more important than taking the chance of finding them.

Once the decision to sleep is made, it is important to get right to bed. Don't waste time trying to think about the contest. When you lay down, clear the mind and fall asleep as quickly as possible. Set the alarm for either 90 or 180 minutes later to take advantage of the natural sleep cycle. If you try to wake up from deep sleep, a form of disorientation I call sleep drunkenness may result. Worse than the hallucinations and disorientation is the real possibility that you will go back to sleep without ever waking completely up. This has happened to me twice. One time I even had a conversation with a local multi-op on two meters (so they said, I can't remember it at all) and woke up four hours later in another room of the house. This fear of not waking up is usually the real reason I try to stay awake and keep going!

When you wake up, you will probably feel very cold. Be prepared for this by having something warm to drink available and a sweatshirt or sweater you can pull on. Take a few minutes to get fully awake and eat something. Once you sit down at the rig, you must plan to be there until the end of the contest (with only short breaks). As soon as the sun comes up or you pass your normal wake up time, it is easy to stay awake. The battle is in the minutes or hours before dawn.

The last 12 to 13 hours of the contest coincides with my normal rhythm for being awake. The only difficulty is fighting the effects of sleep deprivation. These are not



usually obvious at the time. However, there is an easy way to see just what the loss in mental sharpness is. During the next DX contest, tape record a run during the first morning. Then tape record a similar time the second morning. After the contest, play the two tapes back to back. You won't believe how much your call sign recognition and ability to get calls on the first try is degraded! Unfortunately, there is not much you can do except recognize the problem and work through it.

### More Tips

There are a number of other techniques that you may wish to use as part of your sleep strategy. One suggested by W2SC is to try taking very short 10 minute naps when you feel sleepy. This appears to offer some rest yet does not allow you to fall so far asleep that you can not wake up easily.

Notice that I did not mention the use of caffeine in my strategy. I am not a coffee drinker so I can't speculate on its effects. As I get older I am finding it much more difficult to fight through the need for sleep. As a result, I have occasionally taken a caffeine pill (such as No-Doze) to help stay awake. I take 100 mg of caffeine at the lowest point of each night. Caffeine can upset your stomach so it is a good idea to eat something at the same time.

I have had some success with combining caffeine with the short nap technique. I take the caffeine and then sleep for 10 minutes. The effect of the caffeine and the nap seem to compliment each other as a way of getting some rest and yet waking up with a clear head.

I think it goes without saying that drugs and alcohol should not be used during the contest. Alcohol is a depressant and will cause you to fall asleep (not to mention interfering with the mental energy you need to win).

One area of contest physiology that I have not studied is the effects of diet. I find that I eat and drink very little during the course of the contest. Working stations is like potato chips for me -- I can't stop! Several times during the contest I will suddenly realize I am starving, and yet I keep wanting to work just one more station before taking a break. And one more. And another!

Not drinking very much has the benefit of reducing the number of trips to the bathroom. However, this must be balanced against the danger of dehydration. I have lost as much as 5 pounds during the course of one contest! If you have discovered a successful contest diet, share it with me!

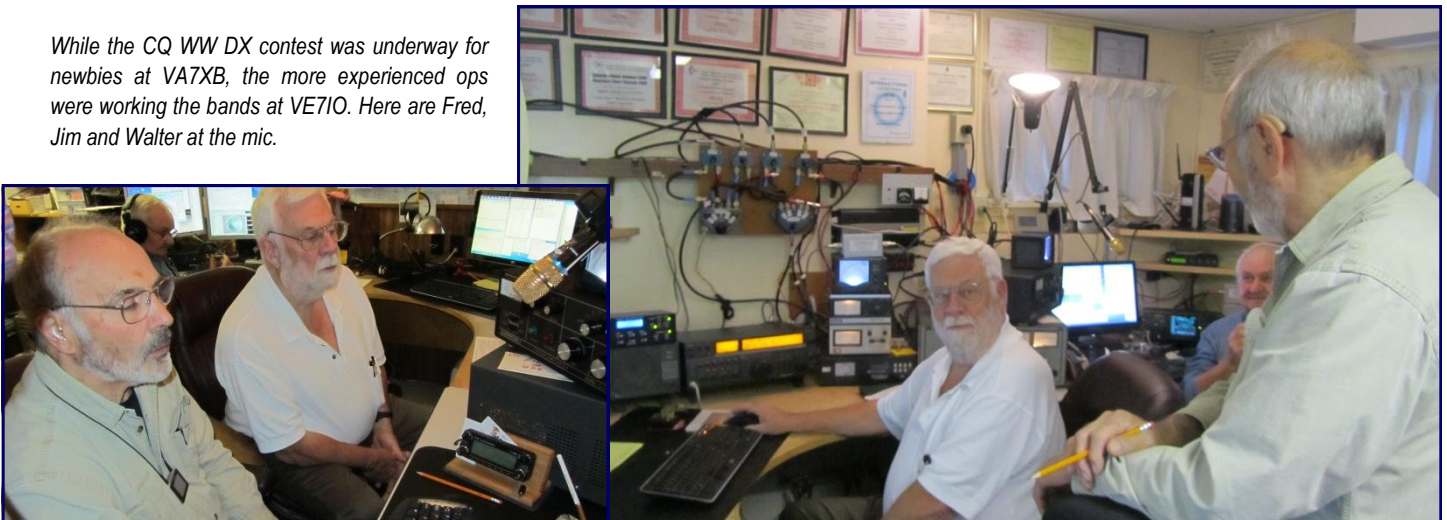
### After the Contest

One thing I have always been amazed by is the adrenaline generated by the excitement of the end of the contest. The pressure of the last two hours is trying to push the score on the computer screen over the next milestone. Should I call CQ or tune? Or a combination of both. When it's over, I am tired and almost incoherent (just listen to the single ops on 3830 for proof). Afterwards, I can't fall asleep for several hours. If only we could bottle that feeling!

Expect any contest effort of more than 44 hours to require several days of recovery. I usually sleep for 12 to 15 hours after the contest. And I still feel sleepy until about Wednesday!

I hope the ideas presented here are of help to you in your next serious DX contest effort. As long as DX contests are 48 hours, the serious single operator entrants must deal with the effects of sleep deprivation. Good preparation, serious commitment, and a well-tuned sleep strategy may be just the edge you need to beat your competition.

*While the CQ WW DX contest was underway for newbies at VA7XB, the more experienced ops were working the bands at VE7IO. Here are Fred, Jim and Walter at the mic.*





## SEPAR Report Kelvin Hall VA7KPH



### BC Shakeout October 18, 2012

SEPAR had an excellent turn-out of fourteen members for the Great British Columbia Shake Out. The SEPAR Communications Trailer was deployed at the RCMP Surrey Detachment to demonstrate the communication skills of SEPAR during an emergency. Feedback was very positive from the Surrey RCMP members that were evacuated to the parking lot site. Job well done!



Thousands of people practised their Drop, Cover, and Hold On October 18th at 10:18 a.m. in the 2012 *Great British Columbia ShakeOut!* More than 12.5 million people were registered to participate in ShakeOut drills worldwide in 2011. Participating was a great way for your family or organization to become better prepared to survive and recover quickly from big earthquakes.



Brett and Don check out the new mini-Grab 'n Go kits

Relationships are everything. SEPAR is a lot like the police and the fire service. Everyone thinks you do a good job but no one knows what you really do and how you do it. When they do see what service you provide; they become allies.

For more information on how well the event went, check out the Great British Columbia Shake Out website at [www.shakeoutbc.ca](http://www.shakeoutbc.ca)

### Volunteer Recognition Dinner

Three SEPAR members were recognized for their years of voluntary service by the City of Surrey on October 25, 2012.

Jim Hurrell, VE7HUR, received his fifteen year pin and Gordon Kirk, VE7GRK and Anton James, VE7SSD received their five year pins. Congratulations for your long term service.

### Changes to the Tuesday Evening Net

With the SEPAR net on Tuesday August 28th we introduced a new message handling program. The practice message portion of the net has been suspended and replaced with a training session on the various components of the NTS message. The new SEPAR script is located on the SEPAR web site at [separ.shutterfly.com](http://separ.shutterfly.com)

To ensure that all SEPAR members have the same information we will be using the NTS Handbook available on the BC/Yukon net website. The document can be downloaded from [www.members.shaw.ca/brasskey/NTS%20HANDBOOK.pdf](http://www.members.shaw.ca/brasskey/NTS%20HANDBOOK.pdf).

As SEPAR is an organization dedicated to emergency communications and traffic handling the net control will accept formal traffic at any time during the net.

### SEPAR Meetings

Third Thursday of each month starting at 1900 hrs

Fourth Saturday of each month starting at 0900 hrs

Location and event schedule can be found at [www.separ.shutterfly.com](http://www.separ.shutterfly.com) – click on the calendar tab.

### November 14<sup>th</sup> SARC Meeting

Join us for a presentation by George Merchant VE7QH on repeaters and the BC Amateur Radio Coordination Council (see page 5).

Please join us at the Emergency Management BC PREOC located at 14275 96<sup>th</sup> Avenue, Surrey



## QRM ...from the Editor's shack

*Do you have a photo or bit of club news to share?  
Something to sell or something you are looking for?  
Email it to [ve7ti@separ.net](mailto:ve7ti@separ.net) for inclusion in this column.*

### WILD ALASKA

#### NA-161 Pleasant Island

This adventure began in early August with a phone call from Frank/VE7DP. He called to see if I would be interested in going to Pleasant Island in Alaska. He said the Island hasn't been activated for at least 10 years and asked if I would like to participate. Needless to say it didn't take me long to say yes.

Our journey started on August 16, 2012 with a plane ride from Seattle to the small town of Gustavus, Alaska which is located about 100 Km west of Juneau. There we teamed up with Doc KL7XK, a local resident and fellow Ham radio operator. He made extensive arrangements for us to get to Pleasant Island.

We reached our destination in the early afternoon of Friday, August 17<sup>th</sup> and it took two trips to get all our gear on the island. I stayed behind with the first load while Frank and Doc went back to bring the remaining supplies. Doc was good enough to leave me a shotgun... just in case a bear happened to wander by while they were gone. Was I scared? Noooooooo... well, maybe a little.

When Frank and Doc arrived with the second load, we began to set up our camp and antennas. It took us less than two hours to erect an improvised shelter and a 15-20m vertical with elevated radials, and we were ready to start. 14 Mhz was open to the USA and Europe and we took turns operating; one person was attending to the pile-ups while the other two finished the Spider beam, 30m vertical, sleeping tents etc.

The bands faded out at sunset but by then we had about 500 QSO in the log; a good start to the eagerly awaited re-activation of IOTA NA-161! Just as the last rays of the setting sun illuminated the majestic peaks of the Fairweather Mountains (4600 meters a.s.l) on the distant westerly horizon, dark clouds started to roll in. We spent a sleepless night inside our tents listening to gusting winds and rain, all in a futile attempt to stay dry.

The storm had dissipated during the early hours of the dawn and the bright sunrise and blue skies revived our damp bodies and somewhat dampened spirits. While waiting for the bands to open, we spread out our wet clothing and sleeping bags on driftwood and exposed rocks to dry and settled down to a leisurely breakfast.

By late morning local time, 20 and 17 meters slowly came alive, starting with signals mostly from North America and around 1900 UTC to Europe. To our surprise we were able to operate on two bands simultaneously without cross-band interference, using a band-pass filter and powering the 2<sup>nd</sup> rig with 12 Volt batteries. This really helped us to give full attention to the short and challenging openings into Europe and also increased the QSO rate by dividing the frantic pile-ups. After 2200 UTC propagation shifted west/northwest to a steady stream of signals from Asia; 17m went quiet but 30 and 20m kept us busy into the evening hours.

We followed the same routine during the 3<sup>rd</sup> day of operation. Aside from that storm during the first night, the weather remained mostly sunny with temperatures between 16 -22 C; altogether very 'pleasant'. We started breaking camp Sunday at noon in order to time our departure during high tide. The spider beam and one tent were left to be dismantled last, but the vertical and other supplies were packed up and loaded into the 16-foot skiff. Thirty minutes later I was back on mainland Alaska and after three days without running water, looking forward to a shave and hot shower.

Frank VE7DP volunteered to stay behind and he worked the pile-ups until the last signal faded out and the bands went completely dead. By the time Doc KL7XK returned to retrieve the last load, the only evidence of our stay on the island, visible from the distance was the extension ladder supporting the spider beam. And the final result? Almost 2,000 QSO's in the log, about half with European stations and a new QSO for many island chasers!

Considering that propagation was poor during the entire activation, working in excess of 50 countries on five continents was a worthwhile effort and we were happy with the outcome.

My thanks and appreciation to Frank for suggested this trip and Doc KL7XK for providing the transportation and other essential supplies.

~ Heinz VA7AQ





## Tech Talk John Schouten VE7TI

### My Screwdriver Antenna Experiences

Some of you may be familiar with the Hi-Q line of mobile HF antennas. SEPAR has several, a choice prompted by the need for a relatively compact, portable HF antenna that is quick to set-up in the field, at least until a more robust antenna can be erected. As an RV'er I decided that I needed a usable mobile HF antenna that I could erect quickly, but that would provide me with a worthwhile HF experience. There is nothing worse than spending hours at the radio and not hearing a soul on the air!

In order, my criteria were:

1. Performance
2. Size;
3. Ease of set-up (not necessarily speed);
4. Ruggedness; and
5. Solid mount

I researched a number of mobile HF antennas including the Buddipole and Tarheel products. Not to bad-mouth these other products, but I tried both and was not satisfied that they would meet my expectations. I was impressed by the quality of construction and military spec components of the Hi-Q. Performance reports were good (provided it is properly installed) and it met my needs for ease of transport and mounting.

**Hi-Q antennas** are made in the workshop of Charlie Gyenes, W6HIQ, VA7HIQ in Wildomar, CA about 150 Km SE of Los Angeles. Charlie has been supplying these antennas for about 10 years and is a supplier to the US military and NASA. I visited Charlie to pick up my Hi-Q in 2010 and he is an interesting, though opinionated fellow who came to the US from Hungary via Canada during the 1956 revolution. Charlie worked for Boeing before setting out on his own.

Charlie's workshop is modest, consisting of a medium sized building beside his home. When I visited, he had about 20 Hi-Q's ready to go. He also showed me several military antennas—ruggedized versions of the Hi-Q, and a huge VLF antenna which was to be installed aboard a US Navy submarine. His test equipment is impressive and his greatest joy is in developing new concepts which can be incorporated into his antenna designs. I mentioned Charlie was opinionated... he pulls no punches when describing his competition and he is obviously very proud of his product.

Before we left, Charlie's wife, a lovely lady, insisted on preparing lunch before we headed out with the antenna.

#### Some Mis-steps

Arriving at our Palm Springs RV Resort, I set up the antenna on a satellite stand, a setup we had used with SEPAR at community displays. This antenna is a typical screwdriver design, the coil being contained in a 20cm diameter plastic housing. A rotor moves up or down the inside of the coil to decrease or increase the virtual length of the antenna, thereby tuning it to the

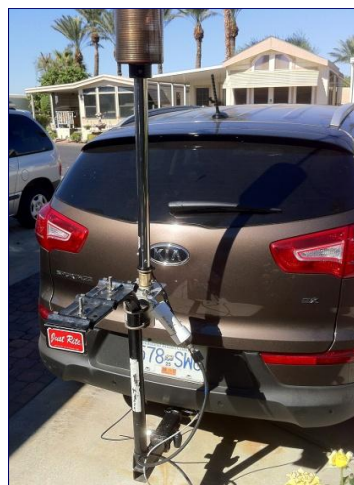
appropriate frequency. To complete that process, the user can use something as simple as a toggle switch, a turns counter, or a third party automatic antenna tuner. I had opted to purchase Charlie's turns counter, basically a switch box with an LED numeric display that shows how many turns are in the antenna circuit. This worked but I found it less precise and it was easy to under or overshoot the target frequency with just one rotation.

Palm Springs is in a 'bowl', surrounded by tall mountains, I found that the antenna performed well for strong stations within 1000 Km, but was not stellar for DX.

#### The 'Right' Set-up

This year we sold the RV but I still wanted to be able to travel with the Hi-Q to operate mobile. We stay in an RV Resort with antenna restrictions, but they do not cover antennas on vehicles. We often travel with bicycles and my wife suggested I find a way to mount it on the car's bike carrier (see photo below). This also permitted me to easily remove either just the antenna or the rack and antenna. I added a ground strap to the frame and also added a current balun to the feedline. With this revised setup and my Icom 7000 (100 Watts max.) I worked the CQ WW DX contest this past weekend. What a difference! Granted the conditions were excellent and even the high bands were open but the results were immediate and surpassed any previous use of the Hi-Q. I worked stations throughout the US, Canada and the Caribbean. I also worked Portugal, Mexico, Japan and added two new countries, Curacao and Cape Verde—the latter my first African contact. On all bands I got an SWR less than 1.6 and as low as 1.1 on 20m.

I've now purchased the automatic tuner for use with my Icom, a purchase that I hope will ease tuning and further improve my portable station. Given my recent experience, I'd recommend this set-up for anyone with strata restrictions wishing to operate HF.



# The SARC Calendar ...places to be in Surrey for Amateur Radio in the month ahead

November 2012						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>28</b> 	<b>29</b> <p>For details on all SARC events, go to <a href="http://ve7sar.net">ve7sar.net</a></p> <p>For details on all SEPARS events, go to <a href="http://separs.net">separs.net</a></p>	<b>30</b>	<b>31</b>	<b>1</b>	<b>2</b> Weekly SARC Breakfast 8:30 ABC Restaurant 74th & King George Blvd.	<b>3</b> CONTESTS: ARRL SS CW Contest
<b>4</b> CONTESTS: ARRL SS CW Contest	<b>5</b>	<b>6</b> SEPAR NET 7:30 SARC NET 8:00	<b>7</b>	<b>8</b>	<b>9</b> Weekly SARC Breakfast 8:30	<b>10</b>
<b>11</b> Remembrance Day	<b>12</b>	<b>13</b> SEPAR NET 7:30 SARC NET 8:00	<b>14</b> SARC General Meeting	<b>15</b>	<b>16</b> Weekly SARC Breakfast 8:30	<b>17</b> CONTEST: ARRL SS SSB Contest
<b>18</b> CONTEST: ARRL SS SSB Contest	<b>19</b>	<b>20</b> SEPAR NET 7:30 SARC NET 8:00	<b>21</b> SARC Exec Meeting	<b>22</b>	<b>23</b> Weekly SARC Breakfast 8:30	<b>24</b> CONTEST: CQ WW DX CW Contest
<b>25</b> CONTEST: CQ WW DX CW Contest	<b>26</b>	<b>27</b>	<b>28</b> SARC Executive Meeting	<b>29</b>	<b>30</b>	<b>1</b> CONTEST: TARA RTTY Melee

Contest Details: <http://hornucopia.com/contestcal/contestcal.html>



## QRT John Brodie VA7XB

### Nominations for "Radio Amateur of the Year"

It has become an annual tradition that we honour those members who have contributed to the vitality of the club and amateur radio in extraordinary ways. At SARC's 2012 Christmas party we plan to continue with this custom, so we are seeking nominations of members deemed worthy to receive special recognition. No financial or material rewards are associated with the award - it is simply a way of showing our appreciation for the time, effort, dedication or unique talent demonstrated. The award may recognize a long service record for duties carried out over several years, for service that enhances the profile of amateur radio, or for initiating a new program that has provided significant benefit to members. There can be just one [award](#), or several. Since many of our newer members would not be aware of past recipients, I have included their names below.

Please consider who has, in your opinion, earned special recognition and send your confidential nomination or nominations to : [brodiejb@shaw.ca](mailto:brodiejb@shaw.ca).

Deadline for receipt of nominations is Dec. 5<sup>th</sup>. Past Years' Award Recipients

<b>2011</b> John Schouten VE7TI Bill Little VA7ZBL Susan Eshelmann VE7IIE	<b>2010</b> Fred Orsetti VE7IO Bill Gipps VE7XS Hiu Yee VE7YXG	<b>2009</b> Gary Skett VE7AS Ken Clarke VE7BC Kjeld Fredericksen VE7GP	<b>2008</b> John Brodie VA7XB	<b>2007</b> Anton James VE7SSD
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### 2012 Christmas Party

Mark down on your calendar the date of Saturday, Dec. 15th, for SARC's annual Christmas Party. Invitations will be going out shortly. The venue is the ABC Restaurant on King George Blvd in South Surrey (not the usual breakfast location). The cost is \$25 for SARC members (subsidized by SARC) and guests, and \$30 for non-members. We plan to have door prizes to award, including a Baofeng dual-band VHF/UHF radio and programming cable.

We are also looking for donations from members and local businesses, so if you can provide one or more, please get in touch with the party organizer, Jinty VA7JMR at [jinty.reid@gmail.com](mailto:jinty.reid@gmail.com)



- Frequency Range: 136-174 / 400-480MHz
- Dual-Band Display, Dual Freq. Display, Dual-Standby
- Output Power: 4 / 1 Watts
- 128 Channels
- 50 CTCSS and 104 CDCSS
- Built-in VOX Function
- 1750Hz Burst Tone
- FM Radio (65.0MHz-108.0MHz)
- LED Flashlight
- Large LCD Display
- High/Low RF Power Switchable
- 25KHz/12.5KHz Switchable
- Low Battery Alert
- Emergency Alert
- Battery Saver
- Time-out Timer
- Keypad Lock
- Monitor Channel
- Channel Step: 2.5/5/6.25/10/12.5/25KHz
- Dimensions (less antenna) 2.28" x 4.33" x 1.26" (W x H x D)
- Box includes: Radio, Dual-Band Antenna, 1800 mAh Li-ion battery,
- Belt Clip, Drop-in Charger, Ear/Mic, English Manual